

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) An optical element for use in an optical pickup apparatus which comprises a first light source having a wavelength λ_1 , a second light source having a wavelength λ_2 ($\lambda_1 < \lambda_2$), a third light source having a wavelength λ_3 ($1.6 \cdot \lambda_1 \leq \lambda_3 \leq 2.0 \cdot \lambda_1$ and $\lambda_2 < \lambda_3$), and a light converging system including an optical element, wherein the light converging system converges a light flux from the first light source onto an information recording plane of a first optical information recording medium through a protective layer having a thickness t_1 ($0.5 \leq t_1(\text{mm}) \leq 0.7$) so that recording and/or reproducing information is conducted for the first optical information recording medium, converges a light flux from the second light source onto an information recording plane of a second optical information recording medium through a protective layer having a thickness t_2 ($0.5 \leq t_2(\text{mm}) \leq 0.7$) so that recording and/or reproducing information is conducted for the second optical information recording medium, and converges a light flux from the third light source onto an information recording plane of a third optical information recording medium through a protective layer having a thickness t_3 ($1.1 \leq t_3(\text{mm}) \leq 1.3$) so that recording and/or reproducing information is conducted for the third optical information recording medium, the optical element comprising:

a first diffractive structure on at least one surface thereof,

wherein when recording and/or reproducing is conducted for the first, second and third information recording mediums respectively, a light flux emitted from each of the first, second and third light sources passes in common through the first diffractive structure and thereafter is converged respectively to form a light spot on an information recording plane of the first, second and third optical information recording mediums, [[and]]

wherein, when a wavelength changes to become longer, the first diffractive structure has an optical characteristic to make the spherical aberration of a light flux having passed through the diffractive surface to be under, and

wherein in a case that a light flux having a wavelength λ_1 , λ_2 or λ_3 comes into the optical element, when an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays generated by the first diffractive structure is n_1 in the light flux having the wavelength λ_1 , n_2 in the light flux having the wavelength λ_2 and n_3 in the light flux having the wavelength λ_3 the following formulas are satisfied:

$$n_1=2, n_2=1, n_3=1.$$

2. (Cancelled).

3. (Previously Presented) The optical element of claim 1, wherein when the optical system magnification of the optical element for the wavelength λ_1 is m_1 , the following formula is satisfied:

$$m_1 = 0$$

4. (Previously Presented) The optical element of claim 1, wherein when the optical system magnification of the optical element for the wavelength λ_3 is m_3 , the following formula is satisfied:

$$-1/12.0 \leq m_3 \leq -1/16.0$$

5. (Previously Presented) The optical element of claim 1, wherein when the optical system magnification of the optical element for the wavelength λ_3 is m_3 , the following formula is satisfied:

$$-1/12.0 \leq m_3 \leq -1/13.4$$

6. (Cancelled).

7. (Withdrawn) The optical element of claim 6, wherein when the optical system magnification of the optical element for the wavelength λ_2 is m_2 , the following formula is satisfied:

$$-1/12.0 \leq m_2 \leq -1/17.0$$

8. (Withdrawn) The optical element of claim 6, wherein when the optical system magnification of the optical element for the wavelength λ_2 is m_2 , the following formula is satisfied:

$$-1/12.0 \leq m_2 \leq -1/13.4$$

9. (Withdrawn) The optical element of claim 7, wherein the second light source to emit a light flux having a wavelength λ_2 and the third light source to emit a light flux having a wavelength λ_3 are made in a unit.

10. (Cancelled).

11. (Original) The optical element of claim 3, wherein when the optical system magnification of the optical element for the wavelength λ_2 is m_2 , the following formula is satisfied:

$$m_2 = 0$$

12. (Withdrawn) The optical element of claim 7, wherein when a wavelength changes to become longer, the diffractive structure has an optical characteristic to make the spherical aberration of a light flux having passed through the diffractive structure to be under.

13. (Withdrawn) The optical element of claim 11, wherein the first light source to emit a light flux having a wavelength λ_1 and the second light source to emit a light flux having a wavelength λ_2 are made in a unit.

14. (Previously Presented) The optical element of claim 1, wherein the optical element is an objective lens.

15. (Withdrawn) The optical element of claim 1, wherein at least one optical surface of the optical element comprises a first region to allow a light flux having any one of wavelength λ_1 , λ_2 and λ_3 emitted respectively from the first, second and third light sources to pass through so as to conduct recording and/or reproducing for the first, second and third optical information recording mediums respectively, and a second region applied with a dichroic coat to allow a light flux having one of wavelength λ_1 and λ_2 emitted respectively from the first and second light sources to pass through so as to conduct recording and/or reproducing for the first and second optical information recording mediums respectively and not to allow a light flux having a wavelength λ_3 emitted from the third light source to pass through.

16. (Withdrawn) The optical element of claim 15, wherein the diffractive structure is not provided on the optical surface on which the dichroic coat is applied.

17. (Previously Presented) The optical element of claim 1, wherein at least one optical surface of the optical element comprises a first region and a second region which is further from the optical axis than the first region,

wherein a light flux having any one of wavelength λ_1 , λ_2 and λ_3 emitted respectively from the first, second and third light sources passing through the first region is used for recording and/or reproducing for the first, second and third optical information recording mediums respectively,

wherein a light flux having wavelength λ_3 emitted from the third light source passing through the second region is not used for recording and/or reproducing for the third optical information recording medium,

wherein the first diffractive structure is provided on the first region and a second diffractive structure is provided on the second region,

wherein when an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_1 generated by the first diffractive structure is n_{1A} , an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_2 generated by the first diffractive structure is n_{1D} , an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_1 generated by the second diffractive structure is n_{2A} , and an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_2 generated by the second diffractive structure is n_{2D} , the following formula is satisfied:

$$n_{1A} : n_{1D} \neq n_{2A} : n_{2D}$$

18. (Withdrawn) The optical element of claim 1, wherein at least one optical surface of the optical element comprises a first region to allow a light flux having any one of wavelength λ , λ_2 and λ_3 emitted respectively from the first, second and third light sources to pass through so as to conduct recording and/or reproducing for the first, second and third optical information recording mediums respectively, and a second region to allow a light flux having one of wavelength λ_1 and λ_2 emitted respectively from the first and second light sources to pass through so as to conduct recording and/or

reproducing for the first and second optical information recording mediums respectively and not to allow a light flux having a wavelength λ_3 emitted from the third light source to pass through,

wherein the first diffractive structure is provided on the first region and a second diffractive structure is provided on the second region,

wherein when an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_1 generated by the first diffractive structure is n_{1A} , an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_2 generated by the first diffractive structure is n_{1D} , an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_1 generated by the second diffractive structure is n_{2A} , and an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_2 generated by the second diffractive structure is n_{2D} , the following formula is satisfied:

$$n_{1A} : n_{1D} = n_{2A} : n_{2D}$$

where n_{2A} is an odd number.

19. (Withdrawn) The optical element of claim 18, wherein $n_{2A} = 5$ and $n_{2D} = 3$.

20. (Withdrawn) The optical element of claim 18, wherein $n_{2A} = 3$ and $n_{2D} = 2$.

21. (Withdrawn) The optical element of claim 18, wherein the maximum diffraction efficiency among diffracted rays having wavelength λ_3 generated by the second diffractive structure is 60% or less.

22. (Withdrawn) The optical element of claim 18, wherein a light flux outgoing from the first light source is achromatism.

23. (Currently Amended) An optical pickup apparatus, comprising:
a first light source having a wavelength λ_1 ,
a second light source having a wavelength λ_2 ($\lambda_1 < \lambda_2$),
a third light source having a wavelength λ_3 ($1.6 \cdot \lambda_1 \leq \lambda_3 \leq 2.0 \cdot \lambda_1$ and $\lambda_2 < \lambda_3$),
and
a light converging system including an optical element, wherein the light converging system converges a light flux from the first light source onto an information recording plane of a first optical information recording medium through a protective layer having a thickness t_1 ($0.5 \leq t_1(\text{mm}) \leq 0.7$) so that recording and/or reproducing information is conducted for the first optical information recording medium, converges a light flux from the second light source onto an information recording plane of a second optical information recording medium through a protective layer having a thickness t_2 ($0.5 \leq t_2(\text{mm}) \leq 0.7$) so that recording and/or reproducing information is conducted for the second optical information recording medium, and converges a light flux from the third light source onto an information recording plane of a third optical information recording medium through a protective layer having a thickness t_3 ($1.1 \leq t_3(\text{mm}) \leq 1.3$)

so that recording and/or reproducing information is conducted for the third optical information recording medium,

the optical element comprising a first diffractive structure on at least one surface thereof, wherein when recording and/or reproducing is conducted for the first, second and third information recording mediums respectively, a light flux emitted from each of the first, second and third light sources passes in common through the first diffractive structure and thereafter is converged respectively to form a light spot on an information recording plane of the first, second and third optical information recording mediums, and wherein, when a wavelength changes to become longer, the first diffractive structure has an optical characteristic to make the spherical aberration of a light flux having passed through the diffractive surface to be under, and

wherein in a case that a light flux having a wavelength λ_1 , λ_2 or λ_3 comes into the optical element, when an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays generated by the first diffractive structure is n_1 in the light flux having the wavelength λ_1 , n_2 in the light flux having the wavelength λ_2 and n_3 in the light flux having the wavelength λ_3 the following formulas are satisfied:

$$n_1=2, n_2=1, n_3=1,$$

24. (Cancelled).

25. (Previously Presented) The optical pickup apparatus of claim 23, wherein when the optical system magnification of the optical element for the wavelength λ_1 is m_1 , the following formula is satisfied:

$$m1 = 0$$

26. (Previously Presented) The optical pickup apparatus of claim 23, wherein when the optical system magnification of the optical element for the wavelength λ_3 is m_3 , the following formula is satisfied:

$$-1/12.0 \leq m_3 \leq -1/16.0$$

27. (Previously Presented) The optical pickup apparatus of claim 23, wherein when the optical system magnification of the optical element for the wavelength λ_3 is m_3 , the following formula is satisfied:

$$-1/12.0 \leq m_3 \leq -1/13.4$$

28. (Cancelled).

29. (Withdrawn) The optical pickup apparatus of claim 28, wherein when the optical system magnification of the optical element for the wavelength λ_2 is m_2 , the following formula is satisfied:

$$-1/12.0 \leq m_2 \leq -1/17.0$$

30. (Withdrawn) The optical pickup apparatus of claim 28, wherein when the optical system magnification of the optical element for the wavelength λ_2 is m_2 , the following formula is satisfied:

$$-1/12.0 \leq m_2 \leq -1/13.4$$

31. (Withdrawn) The optical pickup apparatus of claim 30, wherein the second light source to emit a light flux having a wavelength λ_2 and the third light source to emit a light flux having a wavelength λ_3 are made in a unit.

32. (Cancelled).

33. (Original) The optical pickup apparatus of claim 25, wherein when the optical system magnification of the optical element for the wavelength λ_2 is m_2 , the following formula is satisfied:

$$m_2 = 0$$

34. (Withdrawn) The optical pickup apparatus of claim 29, wherein when a wavelength changes to become longer, the diffractive structure has an optical characteristic to make the spherical aberration of a light flux having passed through the diffractive structure to be under.

35. (Withdrawn) The optical pickup apparatus of claim 33, wherein the first light source to emit a light flux having a wavelength λ_1 and the second light source to emit a light flux having a wavelength λ_2 are made in a unit.

36. (Previously Presented) The optical pickup apparatus of claim 23, wherein the optical element is an objective lens.

37. (Withdrawn) The optical pickup apparatus of claim 23, wherein a light flux having a wavelength λ_2 comes as a divergent light flux into the optical element and a coupling lens is arranged between the second light source and the optical element.

38. (Withdrawn) The optical pickup apparatus of claim 37, wherein when a boundary line is defined at a position corresponding to a numerical aperture NA_D in a case that information recording and/or reproducing is conducted for the second optical information recording medium and an optical surface of the coupling lens is separated by the boundary line into an inner region closer to the optical axis and an outer region farther from the optical axis, the divergent angle of a light flux having a wavelength λ_2 when the light flux have passed through the inner region is different from that when the light flux have passed through the outer region near to the boundary between the inner region and the outer region.

39. (Withdrawn) The optical pickup apparatus of claim 37, wherein the divergent angle of a light flux having a wavelength λ_2 when the light flux have passed through the outer region is larger than that when the light flux have passed through the inner region near to the boundary between the inner region and the outer region.

40. (Withdrawn) The optical pickup apparatus of claim 37, wherein a light flux having a wavelength λ_3 passes through the coupling lens and thereafter comes into the optical element.

41. (Withdrawn) The optical pickup apparatus of claim 40, wherein when a boundary line is defined at a position corresponding to a numerical aperture NA_c in a case that information recording and/or reproducing is conducted for the third optical information recording medium and an optical surface of the coupling lens is separated by the boundary line into an inner region closer to the optical axis and an outer region farther from the optical axis, the divergent angle of a light flux having a wavelength λ_3 when the light flux have passed through the inner region is different from that when the light flux have passed through the outer region near to the boundary between the inner region and the outer region.

42. (Withdrawn) The optical pickup apparatus of claim 38, wherein a diffractive structure is provided on at least one of the inner and outer regions of the coupling lens.

43. (Withdrawn) The optical pickup apparatus of claim 37, wherein when a boundary line is defined at a position corresponding to a numerical aperture NA_D in a case that information recording and/or reproducing is conducted for the second optical information recording medium and an optical surface of the coupling lens is separated by the boundary line into an inner region closer to the optical axis and an outer region farther from the optical axis, a dichroic coat not to allow a light flux having a wavelength λ_2 to pass through is applied onto the outer region, and when a boundary line is defined at a position corresponding to a numerical aperture NA_D in a case that information recording and/or reproducing is conducted for the second optical information recording

medium and an optical surface of the optical element is separated by the boundary line into an inner region closer to the optical axis and an outer region farther from the optical axis, a dichroic coat not to allow a light flux having a wavelength λ_2 to pass through is applied onto the outer region.

44. (Withdrawn) The optical pickup apparatus of claim 37, wherein a coupling lens is arranged between the third light source and the optical element, when a boundary line is defined at a position corresponding to a numerical aperture NA_c in a case that information recording and/or reproducing is conducted for the third optical information recording medium and an optical surface of the coupling lens is separated by the boundary line into an inner region closer to the optical axis and an outer region farther from the optical axis, a dichroic coat not to allow a light flux having a wavelength λ_3 to pass through is applied onto the outer region, and when a boundary line is defined at a position corresponding to a numerical aperture NA_c in a case that information recording and/or reproducing is conducted for the third optical information recording medium and an optical surface of the optical element is separated by the boundary line into an inner region closer to the optical axis and an outer region farther from the optical axis, a dichroic coat not to allow a light flux having a wavelength λ_3 to pass through is applied onto the outer region.

45. (Withdrawn) A coupling lens for use in the optical pickup apparatus described in claim 37, wherein a light flux having a wavelength λ_1 passes through the coupling lens and thereafter comes into the optical element.

46. (Withdrawn) The optical pickup apparatus of claim 23, wherein an aperture limiting element for a light flux having a wavelength λ_{13} is arranged closer to the light source than the light converging optical system.

47. (Withdrawn) The optical pickup apparatus of claim 46, wherein the aperture limiting element is a dichroic filter.

48. (Withdrawn) The optical pickup apparatus of claim 46, wherein the aperture limiting element is a dichroic prism.

49. (Withdrawn) The optical pickup apparatus of claim 46, wherein the aperture limiting element is a coupling lens.

50. (Withdrawn) The optical pickup apparatus of claim 46, wherein the aperture limiting element is a phase difference plate.

51. (Withdrawn) The optical pickup apparatus of claim 23, wherein at least one optical surface of the optical element comprises a first region to allow a light flux having any one of wavelength λ , λ_2 and λ_3 emitted respectively from the first, second and third light sources to pass through so as to conduct recording and/or reproducing for the first, second and third optical information recording mediums respectively, and a second region applied with a dichroic coat to allow a light flux having one of wavelength λ_1 and λ_2 emitted respectively from the first and second light sources to pass through so as to

conduct recording and/or reproducing for the first and second optical information recording mediums respectively and not to allow a light flux having a wavelength λ_3 emitted from the third light source to pass through.

52. (Withdrawn) The optical pickup apparatus of claim 51, wherein the diffractive structure is not provided on the optical surface on which the dichroic coat is applied.

53. (Withdrawn) The optical pickup apparatus of claim 23, wherein at least one optical surface of the light converging optical system comprises a first region to allow a light flux having any one of wavelength λ , λ_2 and λ_3 emitted respectively from the first, second and third light sources to pass through so as to conduct recording and/or reproducing for the first, second and third optical information recording mediums respectively, and a second region applied with a dichroic coat to allow a light flux having one of wavelength λ_1 and λ_2 emitted respectively from the first and second light sources to pass through so as to conduct recording and/or reproducing for the first and second optical information recording mediums respectively and not to allow a light flux having a wavelength λ_3 emitted from the third light source to pass through.

54. (Previously Presented) The optical pickup apparatus of claim 23, wherein at least one optical surface of the optical element comprises a first region and a second region which is further from the optical axis than the first region,

wherein a light flux having any one of wavelength λ_1 , λ_2 and λ_3 emitted respectively from the first, second and third light sources passing through the first region

is used for recording and/or reproducing for the first, second and third optical information recording mediums respectively,

wherein a light flux having wavelength λ_3 emitted from the third light source passing through the second region is not used for recording and/or reproducing for the third optical information recording medium,

wherein the first diffractive structure is provided on the first region and a second diffractive structure is provided on the second region,

wherein when an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_1 generated by the first diffractive structure is n_{1A} , an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_2 generated by the first diffractive structure is n_{1D} , an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_1 generated by the second diffractive structure is n_{2A} , and an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_2 generated by the second diffractive structure is n_{2D} , the following formula is satisfied:

$$n_{1A} : n_{1D} \neq n_{2A} : n_{2D}$$

55. (Withdrawn) The optical pickup apparatus of claim 23, wherein at least one optical surface of the optical element comprises a first region to allow a light flux having any one of wavelength λ , λ_2 and λ_3 emitted respectively from the first, second and third light sources to pass through so as to conduct recording and/or reproducing for the first, second and third optical information recording mediums respectively, and a second

region to allow a light flux having one of wavelength λ_1 and λ_2 emitted respectively from the first and second light sources to pass through so as to conduct recording and/or reproducing for the first and second optical information recording mediums respectively and not to allow a light flux having a wavelength λ_3 emitted from the third light source to pass through,

wherein the first diffractive structure is provided on the first region and a second diffractive structure is provided on the second region,

wherein when an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_1 generated by the first diffractive structure is n_{1A} , an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_2 generated by the first diffractive structure is n_{1D} , an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_1 generated by the second diffractive structure is n_{2A} , and an order number of a diffracted ray having the maximum diffraction efficiency among diffracted rays having the wavelength λ_2 generated by the second diffractive structure is n_{2D} , the following formula is satisfied:

$$n_{1A} : n_{1D} = n_{2A} : n_{2D}$$

where n_{2A} is an odd number.

56. (Withdrawn) The optical pickup apparatus of claim 55, wherein $n_{2A} = 5$ and $n_{2D} = 3$.

57. (Withdrawn) The optical pickup apparatus of claim 55, wherein $n_{2A} = 3$ and $n_{2D} = 2$.

58. (Withdrawn) The optical pickup apparatus of claim 55, wherein the maximum diffraction efficiency among diffracted rays having wavelength λ_3 generated by the second diffractive structure is 60% or less.

59. (Withdrawn) The optical pickup apparatus of claim 55, wherein a light flux outgoing from the first light source is achromatism.

60. (Original) The optical pickup apparatus of claim 33, wherein the third light source is a hololaser.

61. (Previously Presented) The optical pickup apparatus of claim 33, wherein a first chromatic correcting element to achromatize a light flux having a wavelength λ_1 is located on an optical path of the light flux having the wavelength λ_1 .

62. (Original) The optical pickup apparatus of claim 61, wherein a second chromatic correcting element to achromatize a light flux having a wavelength λ_2 is located on an optical path of the light flux having the wavelength λ_2 .

63. (Withdrawn) The optical pickup apparatus of claim 33, wherein a first chromatic correcting element to achromatize a light flux having the wavelength λ_1 is

located on an optical path on which only the light flux having the wavelength λ_1 passes, and a second chromatic correcting element to achromatize a light flux having the wavelength λ_2 is located on an optical path on which only the light flux-having the wavelength λ_2 passes.

64. (Withdrawn) The optical pickup apparatus of claim 33, wherein a first chromatic correcting element to achromatize a light flux having the wavelength λ_1 is located on an optical path on which the light flux having the wavelength λ_1 and the light flux having the wavelength λ_2 pass in common, and a second chromatic correcting element to achromatize a light flux having the wavelength λ_2 is located on an optical path on which only the light flux having the wavelength λ_2 passes.

65. (Original) The optical pickup apparatus of claim 61, wherein a collimator is located on an optical path on which the light flux having the wavelength λ_1 and the light flux having the wavelength λ_2 pass in common.

66. (Original) The optical pickup apparatus of claim 65, wherein a first beam shaper to shape a light flux having the wavelength λ_1 is located at a light source side than the collimator on an optical path on which the light flux having the wavelength λ_1 passes.

67. (Original) The optical pickup apparatus of claim 66, wherein the first beam shaper corrects chromatic aberration for a light flux having the wavelength λ_1 .

68. (Withdrawn) The optical pickup apparatus of claim 65, wherein a second beam shaper to shape a light flux having the wavelength λ_2 is located at a light source side than the collimator on an optical path on which the light flux having the wavelength λ_2 passes.

69. (Withdrawn) The optical pickup apparatus of claim 68, wherein the second beam shaper corrects chromatic aberration for a light flux having the wavelength λ_2 .

70. (Original) The optical pickup apparatus of claim 65, wherein a beam shaper to shape a light flux having the wavelength λ_1 or to shape a light flux having the wavelength λ_2 is located at a light source side than the collimator on an optical path on which the light flux having the wavelength λ_1 and the light flux having the wavelength λ_2 pass in common.

71. (Original) The optical pickup apparatus of claim 65, wherein the collimator is made of a plastic material.

72. (Withdrawn) The optical pickup apparatus of claim 65, wherein a beam shaping prism to shape a light flux having the wavelength λ_1 or to shape a light flux having the wavelength λ_2 is located between the collimator and the light converging having the wavelength λ_1 and the light flux having the wavelength λ_2 pass in common.

73. (Withdrawn) The optical pickup apparatus of claim 72, wherein the collimator is made of a glass material.

74. (Withdrawn) The optical pickup apparatus of claim 33, wherein a first collimator is located on an optical path on which only a light flux having the wavelength λ_1 and a second collimator is located on an optical path on which only a light flux having the wavelength λ_2 .

75. (Withdrawn) The optical pickup apparatus of claim 74, wherein at least one collimator of the first and second collimators is made of a plastic material.

76. (Withdrawn) The optical pickup apparatus of claim 75, wherein the at least one collimator made of the plastic material is a chromatic aberration correcting element.

77. (Withdrawn) The optical pickup apparatus of claim 74, wherein a first beam shaper to shape a light flux having the wavelength λ_1 is located at a light source side than the first collimator on an optical path on which the light flux having the wavelength λ_1 passes.

78. (Withdrawn) The optical pickup apparatus of claim 77, wherein the first beam shaper is the first chromatic aberration correcting element.

79. (Withdrawn) The optical pickup apparatus of claim 78, wherein a second beam shaper to shape a light flux having the wavelength λ_2 is located at a light source side than the collimator on an optical path on which the light flux having the wavelength λ_2 passes.

80. (Withdrawn) The optical pickup apparatus of claim 79, wherein the second beam shaper is the second chromatic aberration correcting element.

81. (Withdrawn) The optical pickup apparatus of claim 74, wherein a first beam shaper to shape a light flux having the wavelength λ_1 is located between the first collimator and the light converging optical system on an optical path on which the light flux having the wavelength λ_1 passes.

82. (Withdrawn) The optical pickup apparatus of claim 81, wherein a second beam shaper to shape a light flux having the wavelength λ_2 is located between the second collimator and the light converging optical system on an optical path on which the light flux having the wavelength λ_2 passes.

83. (Withdrawn) The optical pickup apparatus of claim 37, wherein the optical element is an objective lens.